Commonwealth of Kentucky
Division for Air Quality
PERMIT STATEMENT OF BASIS

Title V Draft Permit, No. V-03-054

Tennessee Valley Authority-Shawnee Fossil Plant

7900 Metropolis Lack Road, West Paducah, Ky

January 15, 2004

HERBERT CAMPBELL

PLANT I.D. 21-145-00006

APPLICATION LOG # 50078/E885

SOURCE DESCRIPTION, CONTROL EQUIPMENTS & CONSTRUCTION DATE:

The source is an electric power generating plant that has ten coal-fired boilers, two 10 mmBtu/hour oil-fired boilers, and coal, limestone and ash handling facilities. Nine boilers are pulverized-coal, dry bottom wall-fired units rated at 1691 mmBtu/hour, each with cyclones and bagfilters. One boiler is a fluidized-bed combuster, coal-fired, bubbling-bed, fly ash reinjection unit rated at 1800 mmBtu/hour with cyclone and bagfilter.

E. Unit 01-09: Pulverized coal-fired, dry bottom, wall fired unit equipped with bagfilters and cyclones constructed before 1953. Bagfilters installed in 1981.

E. Unit 10: Fludized-bed combustor, coal-fired, bubbling-bed, fly ash reinjection unit equipped with bagfilters and cyclones construction commenced in 1988.

E. Unit 11: Two 10 mmBTU/hour oil-fired boilers (2 Heating boilers, HB1-HB2) construction commenced in 1971.

E. Unit 12: Coal handling operations includes: AFBC fuel prep, AFBC coal conveyor transfer point (BC-13 to BC-14), and AFBC coal bunker and conveyor BC-14 Discharge. All of the effected facilities equipped with bagfilter. Construction commenced: 1988

E. Unit 13: Coal handling operations includes: Screening and crushing building & facilities, coal conveyors, transfer points, traveling stacker/reclaimer, hoppers, barge and rail transport system, and coal storage yard**.** Foam, enclosure or watering are used as control system. Construction commenced: prior 1953.

E. Unit 14: Limestone handling and processing includes: Limestone conditioner building, limestone recycle conveyor (BC-L-3) transfer to BC-L-2, and limestone products conveyor & bunker. Bagfilter or foam are used as control system. Construction commenced: 1988.

E. Unit 15: Limestone handling and processing includes: Limestone unloading, limestone stockout conveyor (BC-L-1) discharge, limestone storage yard, limestone reclaim conveyor (BC-L-2) & emergency feeder, and limestone recycle dump. Enclosure, foam and watering are used as control system. Construction commenced: 1988

E. Unit 16: Fly ash handling includes: includes: Fly ash mechanical collector vacuum systems (Boiler units 1-2, 3-4, 5-6,7-8, and 9), two fly ash transfer silos , two fly ash disposal silos, conditioned fly ash unloading, dry fly ash & AFBC char/fly ash unloading, AFBC char/fly ash disposal silo, conditioned AFBC char/fly ash unloading, AFBC spent bed material (SBM) disposal silo, conditioned AFBC SBM unloading, and dry AFBC SBM and char/fly ash unloading. All of the effected facilities equipped with bagfilter. Reconstruction commenced 1988.

E. Unit 17: Fly ash handling includes: Fly ash, char/fly ash, SBM, dirt hauling and consolidated waste dry stack pile. Watering and enclosure are used as control system. Reconstruction commenced 1988.

REGULATION APPLICABILITY:

Emissions Units 01-09 401 KAR 61:015, Existing indirect heat exchangers applicable for an emissions unit greater than 250 mmBTU/hour and commenced before August 17, 1971.
Emissions Unit 10 401 KAR 59:016, New electric utility steam generating units incorporating by reference 40 CFR 60, Subpart Da, Standards of performance for electric utility steam generating units applicable to an emission unit with a capacity of more than 250 mmBTU per hour and commenced on or after September 19, 1978.
401 KAR 51:017, Prevention of significant deterioration of air quality applicable to major construction or modification commenced after September 22, 1982.
Emissions Unit 11 401 KAR 61:015, Existing indirect heat exchangers, commenced before August 17, 1971, and Regulation 7, Prevention and Control of Emissions of Particulate Matter from Combustion of Fuel in Indirect Heat Exchangers
Emissions unit 12 401 KAR 60:005, Standards of performance for new stationary sources, incorporating by reference 40 CFR 60.250, Subpart Y, that applies to fuel prep, conveyors and coal bunker which process more than 200 tons of coal per day and commenced after October 24, 1974.
401 KAR 51:017, Prevention of significant deterioration of air quality applicable to major construction or modification commenced after September 22, 1982.
Emissions unit 13 401 KAR 63:010, Fugitive emissions.
Emissions Unit 401 KAR 60:670, Standards of performance for nonmetallic mineral processing plants incorporating by reference 40 CFR 60, Subpart OOO, that applies to each of the emissions units listed above, commenced after August 31, 1983.
401 KAR 51:017, Prevention of significant deterioration of air quality applicable to major construction or modification commenced after September 22, 1982.
Emissions Unit: 15 401 KAR 60:670, Standards of performance for nonmetallic mineral processing plants incorporating by reference 40 CFR 60, Subpart OOO, that applies to each of the emissions units listed above, commenced after August 31, 1983.
401 KAR 51:017, Prevention of significant deterioration of air quality applicable to major construction or modification commenced after September 22, 1982.
Emissions Unit 16 401 KAR 59:010, New process operations applicable to emission units commenced on or after July 2, 1975.
Emissions Unit 17 401 KAR 63:010, Fugitive emissions.

The following regulations are not applicable based on the applicability date of regulation, unit size, and/or definition of an affected facility per the regulation:

<u>Regulations not applicable to Emissions Units 1 to 9 and 11, due to applicability date or size of unit:</u>

401 KAR 59:016, New electric utility steam generating units; 401 KAR 60:005, New Source Performance Standards, incorporating by reference 40 CFR 60, Subpart Da, Standards of performance for electric utility steam generating units applicable to an emission unit with a capacity of more than 250 mmBtu per hour commenced on or after September 19, 1978.

401 KAR 60:005, New Source Performance Standard Standards, incorporating by reference 40 CFR 60, Subpart Db, Standards of performance for industrial- commercial-institutional steam generating units.

401 KAR 59:015, New indirect heat exchangers; 401 KAR 60:005, New Source Performance Standards, incorporating by reference 40 CFR 60, Subpart D.

Regulations not applicable to Emissions Unit 10 due to applicability date or size of unit:

401 KAR 60:005, New Source Performance Standard Standards, incorporating by reference 40 CFR 60, Subpart Db, Standards of performance for industrial- commercial-institutional steam generating units.

401 KAR 59:015, New indirect heat exchangers; 401 KAR 60:005, New Source Performance Standards, incorporating by reference 40 CFR 60, Subpart D.

Regulation 401 KAR 61:015, Existing indirect heat exchangers.

Comments:

?? The permittee must comply with the Acid Rain and NOx Budget requirements in Sections J and K of the permit.

?? The permittee may assure compliance with sulfur dioxide allowable standards for emissions units 1 to 10 by using sulfur dioxide continuous emission monitoring (CEM) data.

?? The permittee will be required to conduct at least two particulate matter mass emission performance tests for emissions units 1 to 10 to demonstrate compliance with allowable particulate matter mass emission standards within the life of this permit. The permittee may assure continuing compliance with the opacity standard using COM data. The permittee may assure continuing compliance with the particulate matter mass emission standard using the COM data as an indicator as described in the permit. Additional stack testing for particulate matter emissions may be required under circumstances described in the permit.

?? The permittee shall submit a compliance assurance monitoring (CAM) plan for emissions units 1 to 10 with an application for significant revision of those emissions units or with the application for Title V permit renewal.

?? The permittee has not proposed any alternate operating scenario for any of the emissions units.

?? This permit does not impose any emission cap on any of the emissions units.

?? Emissions Unit 12 (02,05,06), coal handling operations, are subject to 401 KAR 60:005, Standards of performance for coal preparation plants, which adopts by reference 40 CFR 60 Subpart Y for units commenced after October 24, 1974 and are considered to be in compliance when using control measures required by the regulation.

?? Emissions Unit 15, limestone handling operations are subject to 401 KAR 60:670, Standards of performance for nonmetallic mineral processing plants (40 CFR 60, Subpart OOO as modified by Section 2 of 401 KAR 60:670), applies to each of the emissions units listed above, commenced after August 31, 1983 and are considered to be in compliance when using control measures required by the regulation.

?? Emissions Unit 16, fly ash handling operations are subject to 401 KAR 59:010, New process operations applicable to emission units commenced on or after July 2, 1975, and are considered to be in compliance when using control measures required by the regulation.

?? Emissions Units 13 and 17, coal handling operations and fly ash handling operations are subject to fugitive emissions 401 KAR 63:010 and are considered to be in compliance when using control measures required by the regulation.

CREDIBLE EVIDENCE**:**

This permit contains provisions which require that specific test methods, monitoring or recordkeeping be used as a demonstration of compliance with permit limits. On February 24, 1997, the U.S. EPA promulgated revisions to the following federal regulations: 40 CFR Part 51, Sec. 51.212; 40 CFR Part 52, Sec. 52.12; 40 CFR Part 52, Sec. 52.30; 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12, that allow the use of credible evidence to establish compliance with applicable requirements. At the issuance of this permit, Kentucky has not incorporated these provisions in its air quality regulations.